Key features and benefits of the SPIs for Databases

The SPIs for the various databases provide the following key benefits out of the box across all the various database implementations. Features specific to a particular database have been noted in that database section.

• **Ensure high availability of mission critical databases.** Equipped with out-of-the-box predefined event conditions that are deployed easily to database instances, the SPI works to proactively identify database problems before they affect end-users. For example, the SPI for Oracle® database is able to identify potential outages by monitoring the RAC setup by inspecting the Global Cache for corrupted cache blocks, lost blocks, and timeouts.

• **Get answers, not just data.** Rather than reporting mere thresholds for raw data such as Total Block Reads, the SPI provides insight into thresholds for ratios and percentages so administrators know which commands or actions to subsequently use. The SPI also monitors SQL statements to identify resource-intensive, inefficient, and problematic SQL statements to facilitate SQL query optimization and tuning.

• **Facilitate fast recoveries.** The SPI reduces mean time to recovery (MTTR) through intuitive instructional text, and automatically launched snapshot reports, and the ability to shut down or restart servers from a remote location. Individual SPIs may offer additional capabilities such as a context-sensitive launch of Oracle database administrative utilities such as SQL*DBA and Server Manager, the ability to see the last 40 lines of the Microsoft SQL Server log file etc. to assist in root cause analysis.
• **Flatten the learning curve.** The SPI is configured and operated through the familiar interfaces of the HP Operations Center family, enabling operators to confidently assume routine database monitoring activities without learning a new management paradigm.

• **Delegate without losing control.** The SPI allows database and IT administrators to precisely configure each database operator’s environment.

• **Monitor without intrusion.** The SPI adopts a hands-off, non-intrusive approach to monitoring and does not create objects or interfere with the databases being managed.

• **Transfer efficiently change management tasks.** The SPI allows administrators to configure events to page or e-mail a database administrator, who in turn can launch a web-based event browser from any location to drill down to the problem details.

• **Protect investments in homgrown scripts.** The SPI lets administrators cut and paste SQL for their metrics into the UDM template and further specify operations or performance options for that metric.

---

**Product Functionality Overview of the SPIs for Databases**

The HP Operations Smart Plug-in enables you to perform business-centric service management, event management, performance monitoring, and reporting on your database environment and support your critical business processes.

• **Event/Action**

  The HP Operations SPI monitors key operational activities and events to provide always-on availability.

  – Alert log messages such as data block corruptions, enqueue resources exceeded, internal errors, and I/O read/write failures

  – Error situations such as trace files, snapshot errors

  – Snapshot reports of DB environment when alerts occur

  – A rich set of tools and instructions for deeper diagnosis and faster problem resolution

• **Performance**

  The performance data gathered depends on the application the SPI is monitoring. The predefined performance thresholds and graphs in following areas are gathered and reported across all the SPIs for the databases:

  – Space management such as table space and free space

  – Workload metrics such as CPU utilization, transaction throughput

  – SQL related performance indicators such as percent sorts in memory, disk-sort rate
• **Service Reports**
  - HP Reporter enables IT to provide timely, accurate reports to prove IT service quality levels. It provides pre-defined reports in the areas of availability, space management, workload, and operations.
  - Certain SPIs (SPI for Oracle) also integrate with HP Performance Insight allowing more flexibility in what and how is shown and provides additional features like baselining for more capacity planning.

• **Clustered, fail-over environments**
  - Support for some cluster environments such as HP MC/SG, Veritas
  - Automatic detection and switch of server monitoring following a cluster failover

• **Service views**
  - HP Operations Smart Plug-in for Oracle offers auto-discovery and visualization of the Oracle service topology, comprising more than four object types and their dependencies.

**A complete solution**

Through the combination of the HP Operations Smart Plug-in, HP Reporter, HP Performance Insight, and HP Performance Manager, the HP Operations Manager provides a comprehensive solution covering Oracle and non-Oracle components of your business process.

**HP Operations Smart Plug-in for Oracle Database**

**Product Functionality Overview**

The HP Smart Plug-in for Oracle enables you to perform business-centric service management, event management, performance monitoring, and reporting on your Oracle environment, in support of your critical business processes.

• **Event/Action**
  - HP Operations monitors key operational activities and events to ensure availability. Includes more than 90 log file conditions and more than 60 application tools for Oracle management:
    - Alert log messages such as data block corruptions, enqueue resources exceeded, internal errors, and I/O read/write failures
    - Availability monitoring of the Oracle DB servers and related objects
    - Process monitors for all the Oracle database processes (e.g., Listener, LGWR, DBWR, PMON, ARCH, SMON, TRWR, RECO, SNPx, and LCKx)
    - Snapshot reports of DB environment when alerts occur
• **High Availability**
  - Oracle RAC Monitoring, such as identifying Data Blocks in terms of got corrupted during interconnect, got lost during interconnect, and more
  - Oracle Data Guard Monitoring, such as log transport services, log apply services, and standby destination errors
  - Oracle Advanced Replication Monitoring, such as the number of failed/broken DBMS jobs, deferred transactions, and administrative requests.

• **Integration**
  - The Oracle SPI can be configured to capture the alerts and events generated by Oracle Enterprise Manager 10g Grid Control and send the information to the HP Operations Manager.

**Technical specifications**

**Managed Oracle Nodes**

<table>
<thead>
<tr>
<th>Supported Oracle releases</th>
<th>Oracle 8.1.x, 9.2.x, 10gR1, 10gR2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supported Operating Systems</td>
<td>HP-UX, HP Tru64 UNIX®, Sun Solaris, IBM AIX, Microsoft® Windows®, Red Hat™ Enterprise Linux®, and SuSE Linux Enterprise Server</td>
</tr>
<tr>
<td>Supported HP Operations Platforms</td>
<td>HP Operations Agent</td>
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<td>HP Performance Agent</td>
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**Management Server**

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<thead>
<tr>
<th>Supported HP Operations Platforms</th>
<th>HP Operations, HP Performance Manager</th>
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<tbody>
<tr>
<td></td>
<td>HP Reporter, HP Performance Insight</td>
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<tr>
<td>Supported Operating Systems</td>
<td>Microsoft Windows, HP-UX, Sun Solaris</td>
</tr>
</tbody>
</table>

Other Oracle platforms have support through remote access, with some restrictions.
HP Operations Smart Plug-in for Microsoft SQL Server

Product Functionality Overview

• Event/Action
HP Operations monitors key operational activities and events to ensure always on availability, including:
– Caching information (cache hit %, cache free buffer %)
– CPU activity (SQL Server CPU utilization)
– Activity information, transaction data, deadlock information
– Lock Data (lock wait rate, lock wait rate by object, average wait per lock)

• Performance
HP Performance Manager monitors critical SQL Server resources, including:
– Server availability, Server virtual device size
– Server workload I/O, Server sessions
– Server transactions
– User defined metrics for homegrown scripts

Technical specifications

<table>
<thead>
<tr>
<th>Managed Microsoft SQL Server Nodes</th>
<th>Supported Microsoft SQL Server releases</th>
<th>Microsoft SQL Server 2000, 2005</th>
</tr>
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<tbody>
<tr>
<td>Supported Operating Systems</td>
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<tr>
<td>Supported Operating Systems</td>
<td>Supported Operating Systems</td>
<td>HP Operations, HP Performance Manager, HP Reporter</td>
</tr>
</tbody>
</table>

Other Informix platforms have support through remote access, with some restrictions.

HP Operations Smart Plug-in for Informix

Product Functionality Overview

• Event/Action
HP Operations SPI for Informix provides more than 150 logfile conditions and 14 application tools for Informix management. Features and capabilities include:
– Events from message logs
– More than 40 snapshot reports for root-cause analysis
– Status of Informix Dynamic Server
– Log record monitoring
– Status of transaction error

• Performance
HP Performance provides more than 45 pre-defined performance thresholds for Informix health and 10 pre-defined performance graphs. It provides information on:
– Logical log utilization
– Memory metrics, concurrency problems
– I/O performance measures, transaction management

Technical specifications

<table>
<thead>
<tr>
<th>Managed Informix Nodes</th>
<th>Supported Informix releases</th>
<th>Informix Dynamic Server 9.3, 9.4, 10.x</th>
</tr>
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<tbody>
<tr>
<td>Supported Operating Systems</td>
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<td>HP-UX, Sun Solaris, IBM AIX</td>
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Other Informix platforms have support through remote access, with some restrictions.
HP OpenView Smart Plug-in for Sybase

Product Functionality Overview

• Event/Action
  The SPI provides more than 15 logfile conditions and 15 application tools for Sybase management. Features and capabilities include:
  – Interception of more than 1000 error log messages
  – Concurrency problems
  – Failed row accesses
  – More than 30 snapshot reports

• Performance
  HP Performance provides more than 65 pre-defined performance thresholds for Sybase health and 10 pre-defined performance graphs. It provides information on:
  – Performance metrics for data, procedure and user log caches
  – Utilization of fixed limits
  – Database users or applications making heavy use of the CPU or I/O subsystems
  – Parallel query statistics, workload metrics, index tuning statistics
  – User-definable/custom metric creation
  – Database objects monitoring such as open databases, open indexes, engines offline, mirror devices not active etc.

Technical specifications

Managed Sybase Nodes

<table>
<thead>
<tr>
<th>Supported Sybase releases</th>
<th>Sybase 12.0, 12.5.x, 15.x</th>
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Supported Operating Systems

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<td>HP-UX, Sun Solaris, IBM AIX, Red Hat Enterprise Linux, and SuSE Linux Enterprise Server</td>
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Supported HP Operations Platforms

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Other Sybase platforms have support through remote access, with some restrictions.

HP Services

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